

IN THE CLAIMS

Please amend the claims to read as follows:

Listing of Claims

1-13. (Canceled).

14. (Currently Amended) The system of claim 13 25, wherein the determiner determines the modulation level using a number having an integer square root.

15. (Currently Amended) The system of claim 13 25, wherein the determiner determines the modulation level using a number not having an integer square root.

16. (Currently Amended) The system of claim 13 25, wherein: the transmitting apparatus further comprises a modulator that modulates the transmission data at a modulation level determined by the determiner; and the modulator modulates the transmission data by arranging signal points such that a difference between the number of signal points in an I-axis direction and the number of signal points in a Q-axis direction is minimum.

17. (Currently Amended) The system of claim 13 25, wherein the transmitting apparatus further comprises a modulator that modulates the transmission data at a modulation level determined by the determiner; and the modulator modulates the transmission data using a modulation scheme in which a phase direction is identified by an axis that crosses an origin point in a signal space diagram.

18. (Previously Presented) The system of claim 17, wherein the modulator modulates the transmission data using a modulation scheme in which an amplitude direction is identified by an axis that crosses an origin point in a signal space diagram.

19. (Currently Amended) The system of claim 17, wherein the adder adds the error detecting bit every plurality of bits collectively; the receiving apparatus further comprises a detector that performs error detection of each demodulation result in the demodulator using the error detection bit; and the detector outputs a bit without an error as an effective bit transmitted from the transmitting apparatus.

20. (Currently Amended) The system of claim 13 25, wherein, upon a transmission of a pilot signal, the transmitter

transmits the pilot signal arranged in the middle of a maximum amplitude in a signal space diagram of the modulation scheme of the largest modulation level determined by the determiner.

21. (Currently Amended) The system of claim 13 25, wherein the receiving apparatus further comprises: a detector that performs error detection of a demodulation result in the demodulator per error detecting unit; and a repeat requester that sends a repeat request to the transmitting apparatus according to an error detection result, per error detecting unit.

22. (Previously Presented) The system of claim 21, wherein the determiner determines the modulation level based on channel quality estimated from the repeat request.

23 and 24. (Canceled)

25. (New) An adaptive modulation communication system comprising a transmitting apparatus and a receiving apparatus, wherein:

(a) the transmitting apparatus comprises:

a determiner that determines a modulation level for modulating transmission data;

an adder that adds an error detecting bit to the transmission data per predetermined error detecting unit in the transmission data;

a modulator that modulates the transmission data with a number of error detecting units in accordance with the modulation level by a modulation scheme corresponding to the modulation level so that a bit position is specific to each of the error detecting units; and

a transmitter that transmits the modulated signal; and

(b) the receiving apparatus comprises:

a receiver that receives the signal transmitted from the transmitting apparatus;

a plurality of demodulators that demodulate the signal based on regions of demodulation patterns to which signal points of bits belong, using the demodulation patterns different between the error detecting units, respectively; and

a plurality of detectors that perform error detection on the demodulated signal for each of the error detecting units to obtain reception data.

26. (New) A receiving apparatus for use in an adaptive modulation communication system, said receiving apparatus comprising:

a receiver that receives a signal including a number of error detecting units in accordance with a modulation level; and

a plurality of demodulators that demodulate the signal based on regions of demodulation patterns to which signal points of bits belong, using the demodulation patterns different between the error detecting units, respectively; and

a plurality of detectors that perform error detection on the demodulated signal for each of the error detecting units to obtain reception data.

27. (New) A transmitting apparatus for communicating with the receiving apparatus of claim 26, said transmitting apparatus comprising:

a determiner that determines a modulation level for modulating transmission data;

an adder that adds an error detecting bit to the transmission data per predetermined error detecting unit in the transmission data;

a modulator that modulates the transmission data with a number of error detecting units in accordance with the modulation

level by a modulation scheme corresponding to the modulation level so that a bit position is specific to each of the error detecting units; and

a transmitter that transmits the modulated signal.